



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-3635; Directorate Identifier 2015-NM-037-AD]

RIN 2120-AA64

Airworthiness Directives; Airbus Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for all Airbus Model A318, A319, A320, and A321 series airplanes. This proposed AD was prompted by an evaluation by the design approval holder (DAH) indicating that the fuselage skin repairs are subject to widespread fatigue damage (WFD). This proposed AD would require an inspection to determine whether any fuselage external skin (doubler) repairs have been accomplished, an inspection for cracking of certain repaired external fuselage skin areas in the fuselage, and repair if necessary. We are proposing this AD to detect and correct fatigue cracking of the fuselage skin, which could result in reduced structural integrity of the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Airbus, Airworthiness Office – ELIAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email account.airworth-eas@airbus.com; Internet <http://www.airbus.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-3635; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal

holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1405; fax 425-227-1149.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2015-3635; Directorate Identifier 2015-NM-037-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

Structural fatigue damage is progressive. It begins as minute cracks, and those cracks grow under the action of repeated stresses. This can happen because of normal

operational conditions and design attributes, or because of isolated situations or incidents such as material defects, poor fabrication quality, or corrosion pits, dings, or scratches. Fatigue damage can occur locally, in small areas or structural design details, or globally. Global fatigue damage is general degradation of large areas of structure with similar structural details and stress levels. Multiple-site damage is global damage that occurs in a large structural element such as a single rivet line of a lap splice joining two large skin panels. Global damage can also occur in multiple elements such as adjacent frames or stringers. Multiple-site-damage and multiple-element-damage cracks are typically too small initially to be reliably detected with normal inspection methods. Without intervention, these cracks will grow, and eventually compromise the structural integrity of the airplane, in a condition known as widespread fatigue damage (WFD). As an airplane ages, WFD will likely occur, and will certainly occur if the airplane is operated long enough without any intervention.

The FAA's WFD final rule (75 FR 69746, November 15, 2010) became effective on January 14, 2011. The WFD rule requires certain actions to prevent structural failure due to WFD throughout the operational life of certain existing transport category airplanes and all of these airplanes that will be certificated in the future. For existing and future airplanes subject to the WFD rule, the rule requires that DAHs establish a limit of validity (LOV) of the engineering data that support the structural maintenance program. Operators affected by the WFD rule may not fly an airplane beyond its LOV, unless an extended LOV is approved.

The WFD rule (75 FR 69746, November 15, 2010) does not require identifying and developing maintenance actions if the DAHs can show that such actions are not

necessary to prevent WFD before the airplane reaches the LOV. Many LOVs, however, do depend on accomplishment of future maintenance actions. As stated in the WFD rule, any maintenance actions necessary to reach the LOV will be mandated by airworthiness directives through separate rulemaking actions.

In the context of WFD, this action is necessary to enable DAHs to propose LOVs that allow operators the longest operational lives for their airplanes, and still ensure that WFD will not occur. This approach allows for an implementation strategy that provides flexibility to DAHs in determining the timing of service information development (with FAA approval), while providing operators with certainty regarding the LOV applicable to their airplanes.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive 2015-0036R1, dated March 31, 2015 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition on all Model A318, A319, A320, and A321 series airplanes. The MCAI states:

During A320 family Extended Service Goal full scale fatigue tests, it was demonstrated that the inspection thresholds defined in the current Structural Repair Manual (SRM) for the A320 family skin repairs are insufficient to detect possible cracks becoming after repairs. The findings are limited to 1.2 [millimeter] (mm) fuselage skin and cover for all cut-out external repairs. The internal repairs are not affected.

This condition, if not detected and corrected, could affect the structural integrity of the fuselage at the repaired skin area(s).

To address this potential unsafe condition, Airbus issued Alert Operators Transmission (AOT) A53N007-14 to provide inspection instructions.

For the reasons described above, EASA issued AD 2015-0036 [<http://www.casa.gov.au/scripts/nc.dll?WCMS:OLDASSE T::svPath=/ADFiles/over/a320/,svFileName=2015-0036.pdf>] to require a one-time inspection of the affected areas and, depending on findings, accomplishment of applicable repair instructions.

Since that AD was issued, operators have questioned the inspection threshold for A318 aeroplanes (not yet in the Airbus AOT), which is actually identical to that for A319 aeroplanes. In addition, an error has been detected in paragraph (1), since external doublers may have been installed in the affected area by a modification that may not be recorded as repair.

Such doubler installations are also subject to the inspection requirements of this AD, which is therefore revised to provide clarifications, correcting paragraph (1) and introducing a Note.

Required actions include an inspection to determine whether any fuselage external skin (doubler) repairs have been accomplished, an external ultrasonic inspection or an internal low/high frequency eddy current inspection for cracking of certain repaired external fuselage skin areas in the fuselage, and repair if necessary. The compliance times vary depending on airplane configuration. The earliest compliance time is within 25,200 flight cycles since last repair, or within 350 flight cycles after the effective date of the AD, whichever occurs later. The latest compliance time is within 45,000 flight cycles since last repair; within 1,500 flight cycles from the effective date of the AD, without exceeding 49,100 flight cycles since last repair; or within 350 flight cycles since the effective date of the AD; whichever occurs last. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-3635.

Related Service Information under 1 CFR part 51

Airbus has issued Alert Operators Transmission A53N007-14, dated July 22, 2014. The service information describes procedures for an inspection to detect cracking on repaired 1.2 millimeter fuselage skin areas on fuselage sections 11, 12, 13, 14, 16, and 17 at external doubler repairs. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of this NPRM.

FAA's Determination and Requirements of this Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of these same type designs.

Costs of Compliance

We estimate that this proposed AD affects 940 airplanes of U.S. registry.

We also estimate that it would take about 2 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$159,800, or \$170 per product.

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Airbus: Docket No. FAA-2015-3635; Directorate Identifier 2015-NM-037-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the Airbus airplanes specified in paragraphs (c)(1) through (c)(4) of this AD, certificated in any category, all manufacturer serial numbers.

(1) Airbus Model A318-111, -112, -121, and -122 airplanes.

(2) Airbus Model A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes.

(3) Airbus Model A320-211, -212, -214, -231, -232, and -233 airplanes.

(4) Airbus Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Reason

This AD was prompted by an evaluation by the design approval holder indicating that the fuselage skin repairs are subject to widespread fatigue damage. We are issuing this AD to detect and correct fatigue cracking of the fuselage skin, which could result in reduced structural integrity of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Inspection to Determine Repair Areas

At the applicable time specified in paragraph (g)(1) or (g)(2) of this AD: Do an inspection to determine whether any fuselage external skin (doubler) repairs have been accomplished on fuselage sections 11, 12, 13, 14, 16, and 17 with a skin thickness of 1.2 millimeters. A review of airplane maintenance records is acceptable in lieu of this

inspection if the identification of applicable repairs can be conclusively determined from that review.

(1) For Model A319, A320, and A321 series airplanes: Except as specified in paragraph (h)(1) and (h)(2) of this AD, at the applicable time specified in paragraphs 4.1.1.b., and 4.1.1.c., of “Accomplishment Timescale,” of Airbus Alert Operators Transmission (AOT) A53N007-14, dated July 22, 2014, or within 350 flight cycles after the effective date of this AD, whichever occurs later.

(2) For Model A318 series airplanes: Except as specified in paragraph (h)(1) and (h)(2) of this AD, at the Model A319 airplane time specified in paragraphs 4.1.1.b., and 4.1.1.c., of “Accomplishment Timescale,” of Airbus AOT A53N007-14, dated July 22, 2014, or within 350 flight cycles after the effective date of this AD, whichever occurs later.

(h) Exceptions to Service Information

(1) Where paragraphs 4.1.1.b., and 4.1.1.c., of “Accomplishment Timescale,” of Airbus AOT A53N007-14, dated July 22, 2014, specifies “FC”, this AD specifies “flight cycles.”

(2) Where paragraphs 4.1.1.b., and 4.1.1.c., of “Accomplishment Timescale,” of Airbus AOT A53N007-14, dated July 22, 2014, specifies “from AOT issuance”, this AD specifies “as of the effective date of this AD.”

(i) Inspection for Cracking

If, during the inspection required by paragraph (g) of this AD, it is determined that any fuselage external skin (doubler) repair has been accomplished on fuselage section 11, 12, 13, 14, 16, or 17: At the applicable time specified paragraph (g)(1) or

(g)(2) of this AD, do an external ultrasonic inspection (US) or an internal low frequency eddy current (LFEC) inspection for cracking of all of the repaired 1.2 millimeter (mm) fuselage skin areas, in accordance with the instructions specified in paragraph 4.2.2 “Inspection Requirements,” of Airbus AOT A53N007-14, dated July 22, 2014, except as provided by paragraph (j) of this AD.

(j) Optional Inspection for Cracking

As an optional method of compliance to the US or LFEC inspection required by paragraph (i) of this AD: Do a high frequency eddy current (HFEC) inspection for cracking in the cut-out surrounding the fastener area, at and in front (approximately 10-15 millimeters) of the fastener row, after doubler removal and before any new extended doubler installation, using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA); or Airbus’s EASA Design Organization Approval (DOA).

(k) Optional Repetitive Inspections

In lieu of doing the inspection required by paragraph (i) of this AD: Within the applicable compliance time specified in paragraph 4.1.1 “Accomplishment Timescale,” of Airbus AOT A53N007-14, dated July 22, 2014, after accomplishing the inspections required by paragraph (g) of this AD, do a detailed inspection or HFEC inspection and repeat the inspection thereafter within the applicable compliance times specified in paragraph 4.1.1 “Accomplishment Timescale,” of Airbus AOT A53N007-14, dated July 22, 2014. The inspections must be done in accordance with the instructions of paragraph 4.2.2 “Inspection Requirements,” of Airbus AOT A53N007-14, dated July 22, 2014. For Model A318 series airplanes, use the applicable compliance times and

instructions specified in Airbus AOT A53N007-14, dated July 22, 2014, that are specified for Model A319 series airplanes.

(l) Repair

If any crack is found during any inspection required by paragraph (i), (j), or (k) of this AD: Before further flight, repair the cracking, in accordance with the instructions of paragraph 4.2.3 “Findings,” of Airbus AOT A53N007-14, dated July 22, 2014, except where Airbus AOT A53N007-14, dated July 22, 2014, specifies to contact Airbus for a repair design approval sheet or for further instructions, this AD requires repair using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the EASA; or Airbus’s EASA DOA.

(m) FAA-approved Maintenance or Inspection Program Revision

Concurrently with the accomplishment of any repair required by paragraph (l) of this AD, revise the post-repair inspection threshold(s) in the applicable FAA-approved maintenance program or inspection program, as applicable, in accordance with the instructions specified in paragraph 4.1.1 “Accomplishment Timescale,” of Airbus AOT A53N007-14, dated July 22, 2014; except for Model A318 series airplanes use the instructions specified for Model A319 series airplanes.

(n) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local

Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1405; fax 425-227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the EASA; or Airbus's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

(o) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA Airworthiness Directive 2015-0036R1, dated March 31, 2015, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-3635.

(2) For service information identified in this AD, contact Airbus, Airworthiness Office – EIAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email account.airworth-eas@airbus.com; Internet <http://www.airbus.com>. You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on September 16, 2015.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.
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